National Institute of Environmental Health Sciences

Impact of climate change on health: What is required of climate modellers?

Author(s): Huntingford C, Hemming D, Gash JH, Gedney N, Nuttall PA
Year: 2007
Journal: Transactions of The Royal Society of Tropical Medicine and Hygiene. 101 (2): 97-103

Abstract:

The potential impacts of climate change on human health are significant, ranging from direct effects such as heat stress and flooding, to indirect influences including changes in disease transmission and malnutrition in response to increased competition for crop and water resources. Development agencies and policy makers tasked with implementing adaptive strategies recognize the need to plan for these impacts. However at present there is little guidance on how to prioritize their funding to best improve the resilience of vulnerable communities. Here we address this issue by arguing that closer collaboration between the climate modelling and health communities is required to provide the focused information necessary to best inform policy makers. The immediate requirement is to create multidisciplinary research teams bringing together skills in both climate and health modelling. This will enable considerable information exchange, and closer collaboration will highlight current uncertainties and hopefully routes to their reduction. We recognize that climate is only one aspect influencing the highly complex behaviour of health and disease issues. However we are optimistic that climate-health model simulations, including uncertainty bounds, will provide much needed estimates of the likely impacts of climate change on human health.

Source: http://dx.doi.org/10.1016/j.trstmh.2006.11.001

Resource Description

Climate Scenario : ☑

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES)

Exposure : ☑

weather or climate related pathway by which climate change affects health

Air Pollution, Ecosystem Changes, Extreme Weather Event, Food/Water Quality, Food/Water Security, Food/Water Security, Glacier/Snow Melt, Meteorological Factors, Precipitation, Sea Level Rise, Temperature

Air Pollution: Ozone

Extreme Weather Event: Flooding

Food/Water Quality: Other Water Quality Issue

Water Quality (other): Sea Surface Temperature

Food/Water Security: Agricultural Productivity, Food Access/Distribution, Nutritional Quality

Temperature: Extreme Heat, Fluctuations

Geographic Feature: ☒

resource focuses on specific type of geography

Tropical, Urban

Geographic Location: ☒

resource focuses on specific location

Global or Unspecified

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Infectious Disease, Morbidity/Mortality

Infectious Disease: Foodborne/Waterborne Disease, Vectorborne Disease

Foodborne/Waterborne Disease: General Foodborne/Waterborne Disease, Other Diarrheal Disease

Vectorborne Disease: General Vectorborne, Mosquito-borne Disease, Tick-borne Disease

Mosquito-borne Disease: Dengue, Malaria

Tick-borne Disease: General Tick-borne Disease

Intervention: ☒

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Medical Community Engagement: ☒

resource focus on how the medical community discusses or acts to address health impacts of climate change

A focus of content

Mitigation/Adaptation: ☒

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology: ☒

type of model used or methodology development is a focus of resource

Exposure Change Prediction, Methodology

Resource Type: ☒

format or standard characteristic of resource

Research Article, Review

Timescale: ☑

time period studied

Long-Term (>50 years)

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content